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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,229	01/29/2004	Takuya Maruyama	NECPW 20.920 (100806-0025)	2593
26304	7590	10/13/2005	EXAMINER	
KATTEN MUCHIN ROSENMAN LLP 575 MADISON AVENUE NEW YORK, NY 10022-2585			LUU, CHUONG A	
			ART UNIT	PAPER NUMBER
			2818	

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/767,229

Applicant(s)

MARUYAMA ET AL.

Examiner

Chuong A. Luu

Art Unit

2818



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/29/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of Group I, claims 1-12 and 15 in the reply filed on July 26, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The Rejections

Claims 1, 6-7, 11-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Kobayashi et al. (U.S. 5,668,019).

Kobayashi a method of fabricating thin film transistor with

(1) forming a film (3) on a semiconductor substrate (1);

performing a dry etching process for removing said film while monitoring a plasma emission at a plurality of wavelengths;

wherein said performing said dry etching process includes determining an endpoint of said dry etching process based on a change of intensity of the plasma emission at said plurality of wavelengths (see column 6, lines 6-45);

(6) wherein said insulating film does not contain nitrogen (see column 6, lines 6-7);

(7) wherein said insulating film does not contain nitrogen (see column 6, lines 6-7);

(11) wherein said film does not contain nitrogen (see column 6, lines 6-7);

(12) wherein said film does not contain nitrogen (see column 6, lines 6-7);

(15) forming a film (3) on a substrate (1);

starting a dry etching of the film in a dry etching system;

monitoring a plasma emission from the dry etching system;

detecting an endpoint of the dry etching based on intensity of the monitored plasma emission at predetermined wavelengths; and

ending the dry etching of the film,

wherein intensity of at least two wavelengths is monitored at said monitoring the plasma emission (see column 6, lines 6-45).

PRIOR ART REJECTIONS

Statutory Basis

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The Rejections

Claims 2-5 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi et al. (U.S. 5,668,019) in view of Arakawa et al. (U.S. 6,703,285 B2).

Kobayashi a method of fabricating thin film transistor with

(8) wherein said plurality emission band having a of different wavelengths is an luminous intensity peak in the in an emission band having a proximity of 704 nm and luminous intensity peak in the proximity of 704 nm (see column 6, lines 25-27);

(9); (10) performing a dry etching process for removing said film at least until reaching an interface while monitoring plasma emission at plurality of wavelength (see column 6, lines 6-45);

wherein said performing said dry etching process includes determining an endpoint based on a change of intensity of the plasma emission at said plurality of wavelengths (see column 6, lines 6-45);

Kobayashi teaches the above outlined features except for wherein said film contains nitrogen and specific wavelength. However, Arakawa discloses a method for manufacturing capacitor structure with **(2)** wherein said film contains nitrogen (see column 4, lines 64-67); **(3)** wherein said film contains one of SiCN and SiON (see

column 4, lines 64-67 and column 5, lines 1-45); **(4)** wherein said film is a insulating film provided on another film containing nitrogen in direct contact therewith (see column 4, lines 64-67 and column 5, lines 1-45); **(5)** wherein said film is a insulating film provided on another film containing one of SiCN and SiON in direct contact therewith (see column 4, lines 64-67 and column 5, lines 1-45); **(9)**; **(10)**..... with said nitrogen – containing film (see column 4, lines 64-67 and column 5, lines 1-45). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the Kobayashi's device (accordance with the teaching of Arakawa) by forming an array electrodes since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8., and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Leshin*, 125 USPQ 416 and *In re Aller*, 105 USPQ 233 (see MPEP 2144.05). Doing so would facilitate the manufacture of the semiconductor device and improve the speed of the semiconductor structure.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuong A. Luu whose telephone number is (571) 272-1902. The examiner can normally be reached on M-F (6:15-2:45).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chuong Anh Luu
Patent Examiner
October 06, 2005